DA-VA

Analog Video Distribution Amplifier
with passive input loop

User manual

Rev. H

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Revision history

Current revision of this document is the uppermost in the table below.

Rev.	Repl.	Date	Sign	Change description
H	7	2015-05-14	MB	Cover page update; DoC removed; no other changes to content
7	6	2012-04-02	SHH	Updated block diagram to show passive loop.
6	5	2011-06-23	AJM	Added passive loop through connector. Frequency Response updated. C1 backplane discontinued. Updated chapter 3 Connector module.
5	4	2009-06-25	AJM	Specified support for AES-3id
4	3	2008-07-15	TØ	Added Declaration of Conformity.
3	2	2007-10-26	TØ	New front page and removed old logo.
2	1	2007-10-05	TØ	Added Materials Declaration and EFUP

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1 Product overview

The Flashlink DA-VA is an analog video distribution amplifier module with passive input loop providing high performance media distribution for analog signals from DC to 200 MHz. The module also complies with the SMPTE 259 M specification for SDI signals. The input signal is distributed to 6 equivalent outputs. The input is switch able to high impedance for multi drop purposes. Outputs have 75 ohms impedance. A signal detector will indicate if signal is present (LED and GPI).

The DA-VA is designed for all distribution purposes in studio, duplication and broadcast applications.

The DA-VA is well suited for distribution of AES-3id signals (75 ohms unbalanced AES over coaxial cables).

DA-VA comes with a passive input loop with the default -C2 backplane (Default since November 2011).

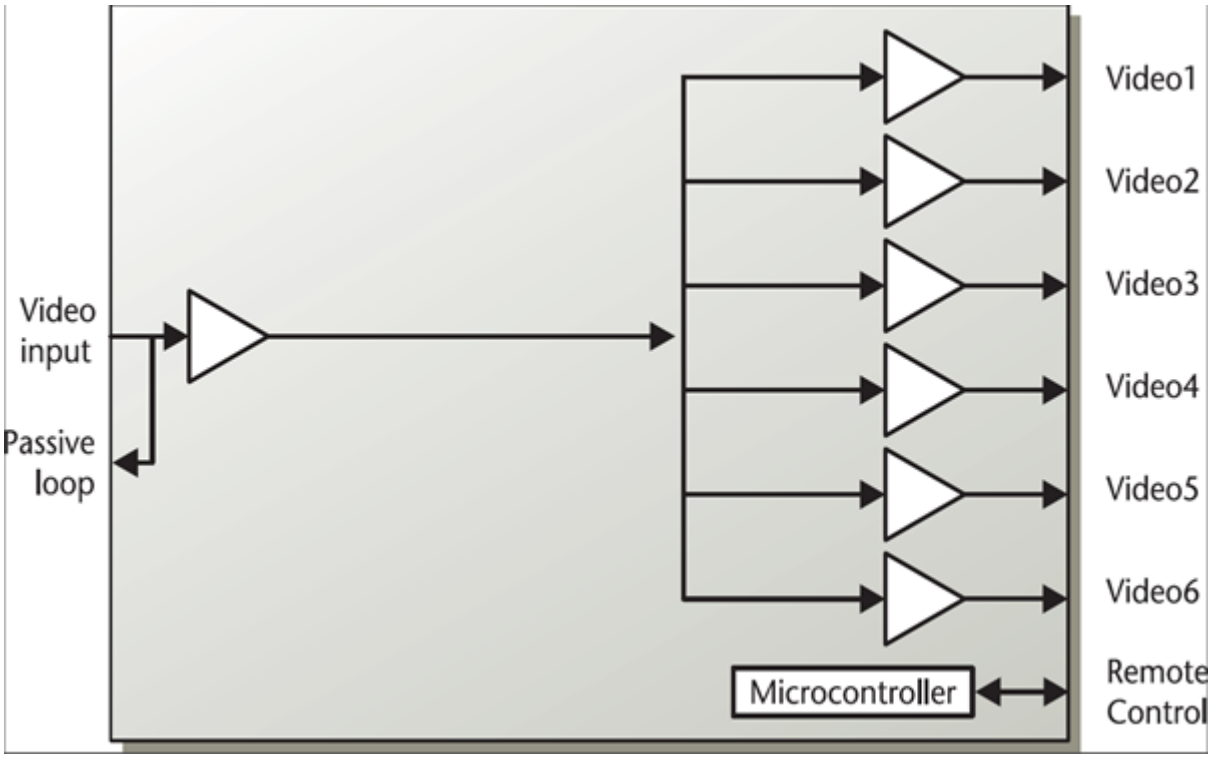

Figure 1: DA-VA Analog Video Distribution Amplifier

2 Specifications

2.1 Electrical Input

Maximum input	2 V p-p
Coupling	DC
Impedance	75 ohm (switch able to high impedance)
Connector	BNC

Passive loop through is available with –C2 backplane (default backplane).

2.2 Electrical Output

Number of outputs	6
Connector	BNC
Impedance	75 ohm
Signal polarity	6 non inverting

2.3 Analog video

Frequency range	0 to 200 MHz -3dB (useful for AES-3id)
Return loss	> 40dB @ 20MHz
Video S/N ratio	> 70 dB
Differential gain	< 0.1 %
Differential phase	< 0.1 º
Gain	0 dB ± 0.05 dB 0-10 MHz 0 dB ± 0.5 dB 0-150 MHz

2.4 Specifications for the analog amplifier used for SDI-video (SMPTE 259 M)

Gain	0 dB
Jitter	< 700 ps, typ. 250 ps
Return loss	> 15dB @ 270MHz
Data rate	up to 270 Mbps
Rise/fall overshoot	< 10 %, typ. 0 %
Rise and fall time	> 400 ps, < 1500 ps, typ. 1000 ps
Rise/fall time difference	< 500 ps, typ. 100 ps

2.5 Electrical

Power	+5V DC / 0.1 W, ±15V DC / 1.9 W
Control	Control system for access to setup and module status with BITE (Built-In Test Equipment) for use with GYDA Control System

3 Connections

The DA-VA has a dedicated connector module: DA-VA-C2. This module is mounted at the rear of the sub-rack. The module is shown in figure 2. This backplane replaced the DA-VA-C1 backplane with the feature upgrade of incorporating the passive loop on the backplane. Figure 3 shows the discontinued DA-VA-C1 backplane.

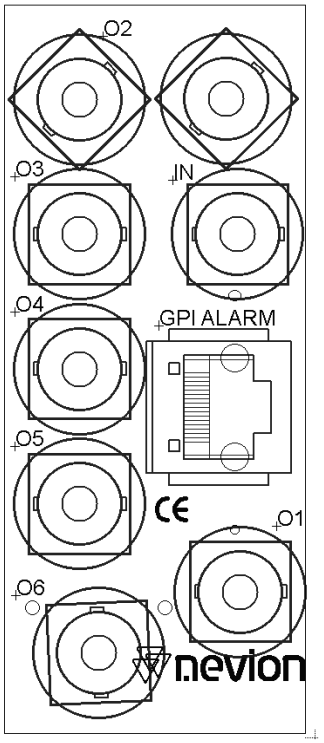

Figure 2: Overview of the DA-VA-C2 connector module (default backplane).

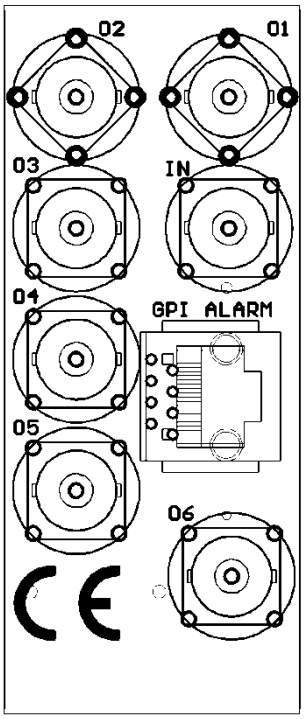

Figure 3: Overview of the DA-VA-C1 connector module (Discontinued).

The electrical input signal is connected to the IN BNC and the electrical outputs are connected to the O1 to O6 BNC's. Please note that all 6 outputs are non-inverted. On the back side of this board, there is a DIP switch to set the termination. If switch 1 is on, there is a 75 ohms termination. DIP switch 2 is not used.

3.1 Mounting the connector module

The details of how the connector module is mounted, is found in the user manual for the sub-rack frame FR-2RU-10-2.

This manual is also available from our web site: http://www.nevion.com/

4 Operation

The status of the module can be monitored in three ways.

1. GYDA System Controller (optional)
2. GPI at the rear of the sub-rack
3. LED's at the front of the sub-rack.

Of these three, the GPI and the LED's are mounted on the module itself, whereas the GYDA System Controller is a separate module giving detailed information on the card status. The functions of the GPI and the LED are described in sections 5.1 and 5.2. The GYDA controller is described in a separate user manual.

4.1 GPI ALARM – Module Status Outputs

Only available when using the standard –C1 backplane

These outputs can be used for wiring up alarms for third party control systems. The GPI outputs are open collector output, sinking to ground when an alarm is triggered. The GPI connector is shown in figure 4.

Electrical Maximums for GPI outputs

Max current: 100mA

Max voltage: 30V

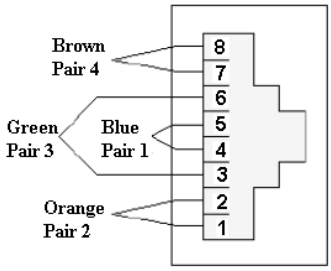

Figure 4: GPI pin out

DA-VA module GPI pinning:

Signal	Name	Pin #	Mode
Status	General error status for the module.	Pin 1	Open Collector
Signal	Signal detected (HW revision 3 only)	Pin 2	Open collector
Ground	0 volt pin	Pin 8	0V.

4.2 Front Panel - Status Monitoring and Signal Detection

The status of the module can be monitored visually at the front of the front of the module.

The DA-VA has one LED showing the status. The hardware revision 2 of the DA-VA has also a built in detector for signal monitoring. When signal is present, LED is green, otherwise it will be red. The LEDs are described in the following table:

Diode \ state	Red LED	Yellow LED	Green LED	No light
Status	Module is faulty		Module is OK Module power is OK	Module has no power
Signal	No signal detected		Signal present	Module has no power

General environmental requirements for Nevion equipment

1. The equipment will meet the guaranteed performance specification under the following environmental conditions:
   - Operating room temperature range: 0°C to 45°C
   - Operating relative humidity range: <90% (non-condensing)

2. The equipment will operate without damage under the following environmental conditions:
   - Temperature range: -10°C to 50°C
   - Relative humidity range: <95% (non-condensing)

Product Warranty

The warranty terms and conditions for the product(s) covered by this manual follow the General Sales Conditions by Nevion, which are available on the company web site:

www.nevion.com

Appendix A Materials declaration and recycling information

A.1 Materials declaration

For product sold into China after 1st March 2007, we comply with the “Administrative Measure on the Control of Pollution by Electronic Information Products”. In the first stage of this legislation, content of six hazardous materials has to be declared. The table below shows the required information.

組成名稱 Part Name	Toxic or hazardous substances and elements					
	鉛 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
DA-VA	O	O	O	O	O	O
O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006. X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.						

This is indicated by the product marking:

A.2 Recycling information

Nevion provides assistance to customers and recyclers through our web site http://www.nevion.com/. Please contact Nevion’s Customer Support for assistance with recycling if this site does not show the information you require.

Where it is not possible to return the product to Nevion or its agents for recycling, the following general information may be of assistance:

- Before attempting disassembly, ensure the product is completely disconnected from power and signal connections.
- All major parts are marked or labeled to show their material content.
- Depending on the date of manufacture, this product may contain lead in solder.
- Some circuit boards may contain battery-backed memory devices.